

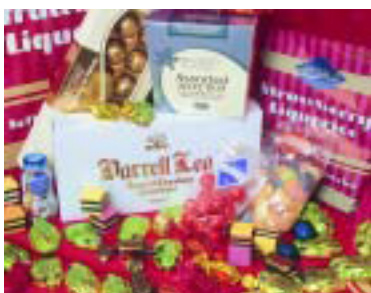
# The sweet taste of success

Darrell Lea Chocolates' manufacturing site at Kogarah enjoyed enviable credentials in water conservation even before it joined the **every drop counts** business program in June 2003.



Darrell Lea Chocolates began with a gentleman named Harry Lea, who mastered the art of confectionery making in Perth. His first creation was Bulgarian Rock, which was sold in a simple street pushcart and barrow. The first confectionery shop was opened in 1927 in Sydney's Haymarket area and the company has been growing ever since.

Darrell Lea is now the largest privately owned confectionery manufacturer in Australia, producing over 500 different products.



Top right: Darrell Lea's Engineering Manager Chris Yates and Sydney Water's Steven Meleca at the Kogarah facility.

Left: Darrell Lea's Production Assistant William Chen displays a fresh batch of liquorice.



Over the past six years, Darrell Lea Chocolates has reduced its daily water consumption by 60 per cent – from 250 kilolitres to just 100 kilolitres.

This result was achieved even though the production of its well-known toothsome delights increased.

Engineering Manager, Chris Yates has played a key role in developing Darrell Lea's conservation initiatives.

"In essence, we use a lot of water for washing down equipment and for cooling. While we have made a number of changes in these two areas we have also reviewed our maintenance routine. These combined changes save us 150 kilolitres of water per day. We expect that, with Sydney Water's help, we will make even further reductions in water consumption in the future," he said.

Confectionery making can be a sticky affair, so in the past hot water hoses were used to wash down equipment and the floors. Chris and his team have now initiated a dry cleaning process involving the initial scraping of waste material off the floors and equipment. The addition of restrictors in spray nozzles means less water is used saving 50 kilolitres per day. Modifying a batch-cooking method that wasted a lot of water was the next step.

"By changing the cooking process, we removed the need for water cooling, delivering a saving of 30 kilolitres per day and improving product consistency," Chris said.

A couple of years later, the team also made water efficiency gains in the chocolate manufacturing area.

"We used an existing closed-loop chilled water system where previously there was once-through water cooling that wasted around 5 kilolitres per shift. This initiative saved 20 kilolitres of water per day," Chris said.

"We also discontinued the automatic water bleeding on the plant's 13 air conditioning cooling towers. Bleeding is the process that removes dissolved solids in the cooling tower water.

"When using an automatic timer, the water is bled at set intervals, regardless of need. We introduced a system of regularly measuring the level of dissolved solids via conductivity and now only bleed the water when those solids reach an undesirable concentration."

In addition to these specific initiatives, management of the Darrell Lea plant at Kogarah has instituted an education program.

"We briefed staff on the new operating procedures at a series of team meetings and there is now a much greater awareness of the need to conserve water. As part of this process, more attention is given to leaks and faulty parts are replaced quickly, within a routine maintenance schedule," he said.

"We have made a real change to our management of fresh water and we are proud to say we did most of this when water was still relatively inexpensive."

The relationship with Sydney Water is at a relatively early stage, with Darrell Lea having completed One-2-Five® Water management diagnostic as the first step in the **every drop counts** business program.

"The partnership is very promising given Darrell Lea's serious commitment to water conservation. Recent modifications to the marshmallow process replacing town cooling water with a closed-loop chilled water system simply reinforce this," Steven Meleca, Sydney Water **every drop counts** Program Co-ordinator said.